

Abstract of the Disclosure

A method for fabricating a semiconductor device with a trench type device isolation layer capable of controlling a rounding angle of top corners of a trench and removing damaged layers formed after etching the trench. Particularly, the top corners of the trench is manipulated to have an angle of about 30° to about 60° by using a gas containing at least hydrogen bromide and chlorine gas. Then, an isotropic etching technique is performed as a light etch treatment to make the top corners have an angle of about 50° to about 80°. Finally, a dry oxidation technique is performed to form a screen oxide layer and a gate oxide layer so that moat generations are minimized prior to forming a gate electrode.